

**CTIA®**

(1)

## CTIA Targeted Information

TO: Cellular Fraud Contacts

FROM: Eric Hill, Director of Industry Security

DATE: November 5, 1992

SUBJ: Commercial Cloning

Enclosed please find copies of correspondence to the FCC and to C Two Plus Technology regarding the C2+ device and ESN security.

CTIA has carefully examined the C2+ NAM Emulation Programming Device and has found the device to directly violate FCC rules regarding ESN tampering. We are notifying C2+ of our findings and asking the FCC to enforce its rules in this area.

As the issue progresses, we will keep you informed via our new "Targeted Mailing" program.

If you have any comments or questions, please do not hesitate to contact me or Rhonda Navarrete at 202/785-0081.



**Cellular Telecommunications Industry Association**

1133 21st St. N.W., Third Floor, Washington, D.C. 20036 • (202) 785-0081 • FAX (202) 785-0721



recycled paper

## C-TWO-PLUS-TECHNOLOGY

3174 Mobile Highway - Montgomery, AL 36108 - Phone [205] 264-0264 - FAX 264-7190

November 10, 1992

VIA FAX (202) 785-0721

Mr. Eric Hill, Director of Industry Security  
C.T.I.A.  
1133 21st St. N.W., Third Floor  
Washington, D.D. 20036

Dear Eric:

We received your letter today and anticipate your return of our device.

At your request we shipped you a NEPD Device so that you could determine if it could be used by unauthorized persons to commit theft of services.

You stated in our conversations that you would send us a complete report of your testings but apparently they were left out of your letter. We know that before we gave you the specific codes to emulate your personal phone, you locked up the phone. We advised you that it would either have to be sent to us to unlock or the factory. You were able to unlock it through the assistance of the phone manufacturers engineers.

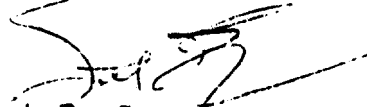
In regards to your testing, please give us the following:

1. Were you able to properly emulate the primary phone with the information (loading codes) that we gave you?
2. Were you able to load any other numbers into the NEPD and successfully emulate any other numbers?
3. Can an unauthorized person use our NEPD to emulate, clone, or alter an ESN without C2+ supplying the specific emulation codes?

May we please have your immediate FAX answer to the above.

Very truly yours,

C TWO PLUS TECHNOLOGY

  
Stuart F. Graydon

SFG/me

COPY

11-9-92  
Phone + 4w - no Reply

11-13-92  
Reply 11/13/92  
Follow up w/ FAX

## C-TWO-PLUS-TECHNOLOGY

3174 Mobile Highway - Montgomery, AL 36108 - Phone [205] 264-0264 - FAX 264-7190

November 13, 1992

VIA FAX (202) 785-0721

Mr. Eric Hill, Director of Industry Security  
C.T.I.A.  
1133 21st St. N.W., Third Floor  
Washington, D.D. 20036

COPY

Dear Eric:

On November 10 I faxed you a request for your test report on the NEPD Device which we sent at your request for the specific purpose of your determining how our product relates to individuals using it for fraud.

Further, you said that as you more closely examine the C2+ procedure that you would share your thoughts with us. To date we have not received any of this information which we considered to be the basis of our agreement to provide you the necessary equipment and information to make this evaluation.

We again request the following:

1. Were you able to properly emulate the primary phone with the information (loading codes) that we gave you?
2. Were you able to load any other numbers into the NEPD and successfully emulate any other numbers?
3. Can a person use our NEPD to emulate, clone, or alter an ESN without C2+ supplying the specific emulation codes?

We should be advised timely that if you have knowledge of any individuals using our Device for fraud (theft of services), who they are, when it happened, and under what conditions the fraud occurred.

As I have stated to you several times, we are as concerned with Cellular fraud as much as you and the carriers are and we take extensive steps to prevent this when we could detect it or it was brought to our attention. Failure to cooperate with us in determining theft of services will ultimately hurt the ones who we are trying to protect at our expense but for their benefits.

May we please have your immediate FAX answer to the above.

Very truly yours,

C TWO PLUS TECHNOLOGY

  
Stuart F. Graydon

SFG/me

COPY

## **C-TWO-PLUS-TECHNOLOGY**

3174 Mobile Highway - Montgomery, AL 36108 - Phone [205] 264-0264 - FAX 264-7190

November 14, 1992

VIA FAX (202) 785-0721

Mr. Eric Hill, Director of Industry Security  
C.T.I.A.  
1133 21st St. N.W., Third Floor  
Washington, D.D. 20036

Dear Mr. Hill:

Thank you for your Fax response to my two requests for the test results of our Device answering the first question we posed. May we please have the answer to our other questions also.

2. Were you able to load any other numbers into the NEPD and successfully emulate any other numbers?
3. Can a person use our NEPD to emulate, clone, or alter an ESN without C2+ supplying the specific emulation codes?

(4) We should be advised timely that if you have knowledge of ANY individuals using our Device for fraud (theft of services), who they are, when it happened, and under what conditions the fraud occurred.

You indicate that you could reverse engineer our Device and its computer chips and I agree that with the equipment and engineering staff and assistance from the manufacturers associated with CTIA you could do this. Our concern is that since your representation as to the purpose of us allowing you to test the Device is to further your understanding of how our product relates to individuals using it for fraud. This is a direct claim that there are individuals using it for fraud and we feel that we have a right to know, as requested in (4) above, if this is the real reason for your request to test the device.

Again, we are as concerned with fraud and want to stop it as you or the carriers are but we cannot assist you in those measures if you decline to specifically address our questions.

May we please have your immediate FAX answer to the above.

Very truly yours,

C TWO PLUS TECHNOLOGY

Stuart F. Graydon

SFG/me

## **C-TWO-PLUS-TECHNOLOGY**

**3174 Mobile Highway - Montgomery, AL 36108 - Phone [205] 264-0264 - FAX 264-7190**

2:57 p.m.

November 19, 1992

VIA FAX (202) 785-0721

Mr. Eric Hill, Director of Industry Security  
C.T.I.A.  
1133 21st St. N.W., Third Floor  
Washington, D.C. 20036

Dear Mr. Hill:

Reference our several requests for information concerning your tests of our NEPD-100 Device, we have not had the courtesy of a reply. May we please have this information promptly:

2. Were you able to load any other numbers into the NEPD and successfully emulate any other numbers?
3. Can a person use our NEPD to emulate, clone, or alter an ESN without C2+ supplying the specific emulation codes?
- (4) We should be advised timely that if you have knowledge of ANY individuals using our Device for fraud (theft of services), who they are, when it happened, and under what conditions the fraud occurred.

Again, we are as concerned with fraud and want to stop it as you or your carriers are but we are unable to assist you in those measures if you choose not to cooperate with us in answering our specific questions.

May we please have your immediate FAX answer to the above.

Very truly yours,

C TWO PLUS TECHNOLOGY



Stuart F. Graydon

SFG/me

## **C-TWO-PLUS-TECHNOLOGY**

3174 Mobile Highway - Montgomery, AL 36108 - Phone [205] 264-0264 - FAX 264-7190

March 2, 1993

VIA FAX (202) 785-0721

Mr. Eric Hill, Director of Industry Security  
C.T.I.A.  
1133 21st St. N.W., Third Floor  
Washington, D.C. 20036

Dear Mr. Hill:

We received your letter today concerning our invoice for \$3,354.00.

To clarify the situation, YOU requested to test a device for the specific purpose of "furthering your understanding of how our product relates to individuals using it for fraud", and we agreed to furnish one ONLY for this purpose. We provided the necessary information and materials for you to perform a normal emulation and did NOT give you permission to deliberately attempt to corrupt the device but ONLY to prove conclusively, (and which your tests confirmed), that our device could not be used by unauthorized persons to commit fraud.

At no time did we consent to your using the device for ANY purposes other than that stated. We most emphatically did NOT give you permission to damage the Device or the phone. There is no way that the condition in which you returned the items could have occurred except through deliberate attempts to destroy the Device and phone.

On at least three occasions we requested a copy of your test procedures and their results. We asked four specific questions:

- (1) Were you able to properly emulate the primary phone with the information (loading codes) that we gave you?
- (2) Were you able to load any other numbers into the NEPD and successfully emulate any other numbers?
- (3) Can an unauthorized person use our NEPD to emulate, clone, or alter an ESN without C2+ supplying the specific emulation codes?
- (4) We should be advised timely that if you have knowledge of ANY individuals using our Device for fraud (theft of services), who they are, when it happened, and under what conditions the fraud occurred.

COPY

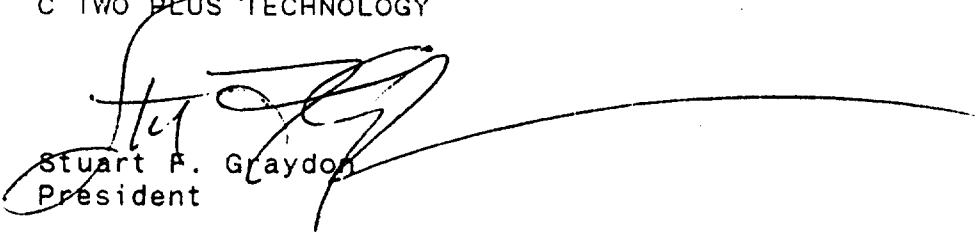
After three (3) written requests, you finally responded with an answer to the first question only, which was obvious. Since you decline to answer the other three, we must therefore conclude that the answers to these three are all negative.

If this conclusion is not correct, I assume that you will respond to these specific questions with appropriate explanations.

Since the damage was outside of your requested purpose, we feel that these charges are in order and expect payment to be forthcoming.

Very truly yours,

C TWO PLUS TECHNOLOGY




Stuart P. Graydon  
President

SFG/me

## **Exhibit 3**



**CELLULAR ONE  
INTER-OFFICE MEMO**

To: Sales Distribution Team  
From: Jerry Reynolds   
Date: January 20, 1995  
Subject: EMULATION POLICY

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Attached is the Cellular One Policy regarding cellular phone ESN emulation.

The policy is very clear and it must be adhered to by you and your team. No exceptions will be considered since this issue includes federal requirements with which we must all comply.

Please make certain your teams are fully aware of this policy. As always, please contact your Cellular One sales management team if you have any questions.

## **Policy Regarding Cellular Phone ESN Emulation**

As of January 1, 1995, the FCC requires that "each mobile transmitter in service must have a unique ESN...[and] the ESN must be factory set and must not be alterable, transferable, removable or otherwise able to be manipulated." The FCC has advised all cellular license holders that the use of a phone with an altered ESN constitutes a violation of the Communications Act and FCC rules.

As a license holder, the Company intends to fully comply with this FCC order. As such, each member of the Company's distribution network must not sell or be involved with an emulation service in any way or manner.

Furthermore, emulated phones adversely impact you economically, as simultaneous use of phones emitting the same ESN could cause problems in the cellular system such as erroneous tracking or billing, there is no residual or commission paid on the second line, network problems could increase, and there is an increase in opportunities to clone numbers.

Sections 2 and 6 of the Subscriber Agreement prohibits a customer's use of an emulated phone. Likewise, your agreement with the Company prohibits your use or sale of emulated phones and prohibits your involvement with a practice or procedure which violates a FCC order.

Therefore, if you or any of your Dealers are associated in any way with emulated phones your commissions and /or residuals will be set-off \$1000.00 per emulated line and no residual or commission will be paid on any line affected by emulation. Continued violations of this rule will be deemed a material breach of your Agreement.

The Company encourages you to inform your Territory Manager regarding any entity associated with an emulation service so that the information can be communicated to our Fraud Management team for an independent investigation.

TO: ALL SOUTH FLORIDA DEALERS

FROM: DEALER SERVICES

DATE: SEPTEMBER 19, 1994

REF: CLONING FRAUD

To: C. Patton  
S. Graydon

CELLULAR  
McEAW  
IMAGING  
M.A.M.

Attached is a notice from our Legal Department regarding a change in our commissions system. We presently over pay our "revenue share" because we have been paying on the amounts billed to the customer (i.e., before write-off for cloning) although our Dealer Program Rules provide that deferred commissions will be based on amounts actually collected. On your September commission statement there will be a debit to revenue share, reflecting over payment, due to cloning, on your August commission check. This will continue as part of your commission statement. In October we will correct (debit) September over payment, etc.

Just in case, we thought it would be helpful to update you on our efforts to deal with the cloning problem. First and foremost, we are working very closely with state and federal law enforcement to bring criminal charges against offending individuals. We have also convinced the FCC to prohibit the use of all ESN emulation devices (such as those sold by a company called C2+) even if the users claim they are merely duplicating their own phone in order to have "two phones, one number" capability. Persons violating this rule are subject to strict fines.

In addition, we are now looking at "collision reports" to stop the simultaneous usage of a legitimate phone and a cloned phone. We have also initiated a sophisticated fraud management system which automatically monitors our network for abnormal usage patterns. Finally, within the next year, we plan to offer digital phones with "call authentication," which will deter cloning and provides one more reason to buy digital equipment. While these measures might not eliminate the fraud problem, they should significantly help.

You can help us fight the crooks too. If you are aware of anyone using a C2+ device (or anything similar), please bring it to our attention. If you have information about any organized effort to sell cloned phones, please let us know. If a customer calls you to complain about a situation that might indicate a cloning problem (e.g., getting incoming calls from strangers or continually getting "fast busy" when trying to make a call), please report this to customer care.

Please let us know if you have any questions, and we appreciate any help with this matter. Thank you!

|                  |      |      |            |
|------------------|------|------|------------|
| Post-It Fax Note | 7671 | Date | # of pages |
| To               |      | From |            |
| Co./Dept.        | MPC  | Co.  |            |

## **Exhibit 4**

90 McCaw Controlled MSA Carriers (No RSAs included)

| USING McCAW PHONE PROGRAM |                        |                               |                   |                               |                         | Population<br>McCAW covers<br>95,457,202 |
|---------------------------|------------------------|-------------------------------|-------------------|-------------------------------|-------------------------|--|
|                           |                        | Monthly Cost<br>\$25 + 4% TAX |                   |                               |                         |  |
| YEAR                      | CURRENT<br>SUBSCRIBERS | % YR<br>ADD                   | 25% w/2<br>PHONES | Annual Cost<br>\$26/mo w/ TAX | PLUS \$35<br>ACTIVATION | YEAR TOTAL                               |
| 1993                      | 3,341,002              |                               |                   |                               |                         |  |
| 1994                      | 4,176,253              | 25                            | 1,044,063         | 325,747,702                   | 36,542,210              | 362,289,912                              |
| 1995                      | 5,220,316              | 25                            | 261,016           | 407,184,627                   | 9,135,553               | 416,320,180                              |
| 1996                      | 6,525,395              | 25                            | 326,270           | 508,980,784                   | 11,419,441              | 520,400,225                              |
| 1997                      | 8,156,743              | 30                            | 489,405           | 661,675,019                   | 17,129,161              | 678,804,180                              |
| 1998                      | 10,195,929             | 30                            | 611,756           | 852,542,813                   | 21,411,451              | 873,954,265                              |
| McCAW CONSUMER COST:      |                        |                               |                   |                               |                         | 2,851,768,762                            |

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USING C2+ TECHNOLOGY @ \$149 for 1994-95 and \$99 thereafter.

| YEAR               | SUBSCRIBERS | % YR<br>ADD | NEW SALES<br>@ 25 % | ONE TIME<br>COST | ACTIV<br>COST | YEAR TOTAL  |
|--------------------|-------------|-------------|---------------------|------------------|---------------|-------------|
| 1994               | 4,176,253   | 25          | 1,044,063           | 155,565,409      | NONE          | 155,565,409 |
| 1995               | 5,220,316   | 25          | 261,016             | 38,891,352       | NONE          | 38,891,352  |
| 1996               | 6,525,395   | 25          | 326,270             | 32,300,704       | NONE          | 32,300,704  |
| 1997               | 8,156,743   | 30          | 489,405             | 48,451,055       | NONE          | 48,451,055  |
| 1998               | 10,195,929  | 30          | 611,756             | 60,563,819       | NONE          | 60,563,819  |
| C2+ CONSUMER COST: |             |             |                     |                  |               | 335,772,339 |

5 YEAR CONSUMER SAVINGS OVER McCAW WITH C2+: 2,515,996,422

5 YEAR Consumer savings from ALL of the carriers COMBINED could exceed FIFTEEN BILLION DOLLARS !

NOTE: CONSUMER COST OF C2+ WILL DECREASE WITH COMPETITION.  
CONSUMER COST WILL INCREASE WITH A MONOPOLY.

Calculations based on 7% market share with 1/2 McCaw. Prices quoted 1/25/95 by McCaw/Metrocel in areas where they offer the service.

The BELL Companies' Programs may be more costly to consumers.

Population basis per RCR Annual Cellular Report 12/93.  
25% conservative annual increase derived from Industry publications.

It is unlikely, considering all carriers, that even 20% of the subscribers will ever be offered an opportunity to have an extension phone given the cost of providing this service through the carrier's switch. With C2+, ANY carrier can IMMEDIATELY offer extension phone service with little or NO investment on their part.

THERE IS NO QUESTION WHICH IS IN THE PUBLIC'S BEST INTEREST !

# McCaw Controlled Carriers

| USING McCAW PPROGRAM |                        | Monthly Cost<br>\$25 + 4% TAX |                                  | Population<br>McCaw covers<br>95,457,202 |                             |
|----------------------|------------------------|-------------------------------|----------------------------------|--|-----------------------------|
| YEAR                 | CURRENT<br>SUBSCRIBERS | 25-30 %<br>BUY FEATURE        | Cost @ \$26/mo<br>+\$35 Activate | C2+ @ \$149<br>ONE TIME                  | USER INCREASE<br>WITH McCAW |
| 1993                 | 3,341,002              |                               |                                  |  |                             |
| 1994                 | 4,176,253              | 1,044,063                     | 362,289,912                      | 155,565,409                              | 206,724,503                 |
| 1995                 | 5,220,316              | 261,016                       | 416,320,180                      | 38,891,352                               | 377,428,828                 |
| 1996                 | 6,525,395              | 326,270                       | 520,400,225                      | 32,300,704                               | 488,099,521                 |
| 1997                 | 8,156,743              | 489,405                       | 678,804,180                      | 48,451,055                               | 630,353,125                 |
| 1998                 | 10,195,929             | 611,756                       | 873,954,265                      | 60,563,819                               | 813,390,445                 |
| CONSUMER COST:       |                        |                               | 2,851,768,762                    | 335,772,339                              | 2,515,996,422               |

5 YEAR CONSUMER SAVINGS OVER McCAW WITH C2+: \$ 2,515,996,422

5 YEAR Consumer savings from ALL of the carriers COMBINED may exceed FIFTEEN BILLION DOLLARS !

C2+ price for 1994-1995 currently \$149. Price should drop to \$99 or less from 1996 forward due to competition.  
Consumer costs WILL INCREASE with a MONOPOLY.

Calculations based on McCaw having 1/2 of 7% market share. Prices quoted 1/25/95 by McCaw/Metrocel in areas where they offer the service.

Population basis per RCR Annual Cellular Report 12/93.

25% Annual sales increase based on conservative Industry publications. and 30% for 4th and 5th years. CTIA shows 30% growth in 1994.  
The BELL Companies' Programs may be more expensive.

It is unlikely, considering all carriers, that even 20% of the subscribers will ever be offered an opportunity to have an extension phone given the cost of providing this service through the carrier's switch. The smaller independent carriers customers will be deprived of offering this service because of the cost to implement.

With C2+, ANY carrier can IMMEDIATELY offer extension phone service with little or NO investment on their part.

THERE IS NO QUESTION WHICH IS IN THE PUBLIC'S BEST INTEREST !

McCAW CELLULAR COMMUNICATIONS CO.

5400 Carillon Point  
James L. Barksdale, President

Kirkland, WA 98033  
(206) 827-4500

MSA OWNED INDEX

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LIN Broadcasting Corp.  
Kirkland, WA 98033

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Wheeling, WV  
Wichita, KS  
Yakima, WA  
Yuba City, CA

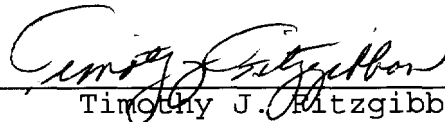
NOTE: This information is quoted from the RCR 1994 Cellular Handbook.



CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing "Reply To Comments Of McCaw Cellular Communications, Inc. On Petitions For Reconsideration" was served this 2nd day of February, 1995 by first-class mail, postage prepaid, upon the following:

McCaw Cellular Communications, Inc.  
c/o Cathleen A. Massey  
Regulatory Counsel  
1150 Connecticut Avenue, N.W.  
4th Floor  
Washington, D.C. 20036

  
\_\_\_\_\_  
Timothy J. Fitzgibbon